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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,347	02/13/2002	Shuji Yonekubo	Q68498	6061

7590 04/15/2005

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,347

Applicant(s)

YONEKUBO, SHUJI

Examiner

LAM S. NGUYEN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 41-43, 47, 48 and 52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11, 41-43, 47 and 48 is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-16 and 52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/828,998.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/06/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The applicants' argument filed on 03/23/2005 regarding the 103 rejection has been found persuasive. As a result, the final rejection has been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "the second nozzle" on line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8, 12-16, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Numata et al. (US 5625384) in view of Miura et al. (US 5988782) and Kaneko et al. (US 5956056).

Numata et al. disclose a liquid jetting apparatus (*FIG. 75*) comprising;
a container-setting portion (*FIG. 75, element 9*) at which separated liquid chambers containing different color liquids are set (*FIG. 75: Each printhead 8a has a liquid chamber that contains a color liquid different from others*),

a head member having a nozzle and a second nozzle (*FIG. 75, element 9: Each printhead 8a has nozzles as shown in FIG. 48A-B*),

a liquid way that can communicate with the liquid chamber set at the container-setting portion and the nozzle, a second liquid way that can communicate with the second liquid chamber set at the container-setting portion and the second nozzle (*FIG. 75: Each liquid chamber in a printhead is in fluid communication with the nozzles in that printhead*),

a liquid discharging unit that can cause the liquid to be discharged from the nozzle, a second liquid discharging unit that can cause the second liquid to be discharged from the second nozzle (*FIG. 75, element RECOVERY SYSTEM UNIT and column 43, lines 45-48: A corresponding unit that performs recovery operation by sucking (discharging) ink from the nozzles*).

Even though, Numata et al. discloses the comprising of a controller that can control the liquid discharging units based on information about the composition or property of the ink in the ink tank cartridge manufactured a long time ago (*column 43, lines 42-67*), Numata et al. does not clearly disclose that the controller controls the liquid discharging units based on information about sedimentation-property of the liquids in the liquid chambers and information about sedimentation-state of the liquids in the liquid chambers, and wherein the point of time that is a standard for judgment of the sedimentation-state is a point of time when the liquid container was stirred previous time (**Referring to claim 8**).

Miura et al. discloses a controller for performing a printing process (*FIG. 8A*) in an ink jet printing apparatus, wherein in that process, the printing is controlled based on the comparison of an elapsed time *T1* that is a period of time from a previous stirring to the present time (*considered as sedimentation-state as defined by the applicants' disclosure that the sedimentation-state information is the information about a point of time for judgment the*

Art Unit: 2853

sedimentation state) with a predetermined time period *To* (*considered as sedimentation-property*) determined to be a period in which sedimentation of ink will not cause significant problem and substantially determined depending upon characteristics on inks (*column 9, lines 27-35*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the controller in the printing system disclosed by Numata et al. such that, instead of controlling the liquid discharging unit based on the information about the composition and property of the liquid as a function of time, controlling the liquid discharging unit based on the information about sedimentation-state and property of the liquid as disclosed by Miura et al. The motivation of doing so is to ensure that the sedimentation of ink will not cause significant problem as taught by Miura et al. (*column 9, lines 30-35*).

In addition, Numata et al. does not disclose wherein the separated liquid chambers containing different color inks are included in a liquid container. In other words, Numata et al. does not disclose wherein the color ink chambers are in the same liquid container.

Kaneko et al. discloses an ink jet recording apparatus having an ink container (*FIG. 9, element 110*) that includes at least three color ink chambers for containing different color inks such as yellow, magenta, and cyan (*column 5, lines 49-52*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to modify the ink chambers disclosed by Numata et al. to include them in the same container as disclosed by Kaneko et al. The motivation for doing so would have been to

Art Unit: 2853

provide an ink jet recording apparatus which may record a color image with less ununiformity of density as taught by Kaneko et al. (*column 1, lines 40-44*).

Numata et al. also discloses the following claimed inventions:

Referring to claims 2-5: further comprising a clock component that knows a present time, and a composition-or-property-state acquiring unit that can acquire the information about composition-or-property-state of the liquids in the liquid chambers, wherein the information about composition-or-property-state of the liquids in the liquid chambers is information about a point of time that is a standard for judgment of the composition-or-property-state, the liquid discharging controller has a calculating part that can calculate a passed time until the present time based on the information about a point of time that is a standard for judgment of the composition-or-property-state, and a main controlling part that can control the liquid discharging units based on the passed time, and the point of time that is a standard for judgment of the composition-or-property-state is a date when the liquid container was manufactured (*column 43, lines 38-50: the type of recovery operation to be performed is decided by the number of months between the manufacturing date and the loading data*), wherein the point of time that is a standard for judgment of the composition-or-property-state is a point of time when the liquid container was set at the container-setting portion (*column 43, lines 62-65: the time that the cartridge is unpacked and loaded in the apparatus*).

Referring to claim 6: wherein the information about the point of time when the liquid container was set at the container-setting portion is stored in a storage unit provided in the liquid container, and the composition-or-property-state acquiring unit is adapted to read out the

Art Unit: 2853

information stored in the storage unit (*column 9, lines 57-62: the time when the new head is used first is written in a non-volatile memory and a corresponding unit reads this memory to acquire this information*).

Referring to claim 7: wherein the point of time that is a standard for judgment of the composition-or-property-state is a point of time when the liquid was jetted previous time (*FIG. 6, steps S505-506: a period of time is set since the last suction or last pre-discharge*).

Referring to claims 12-13: wherein the liquid discharging unit is a cleaning unit that can cause the liquid to be absorbed from the nozzle or a flushing unit that can cause the liquid to be jetted from the nozzle (*FIG. 6: a cleaning unit for suctioning*).

Referring to claim 14: wherein the liquid container contains the liquid by containing a foam material filled with the liquid (*column 40, lines 23-27*).

Referring to claim 15: wherein the liquid contained in the liquid container is ink including pigment (*column 40, lines 14-16: in term of “dye”*).

Allowable Subject Matter

2. Claims 9-11, 41-43, 47-48 are allowed and the reasons for allowance were indicated in the previous office action.

Response to Arguments

Applicant's argument filed 03/23/2005 regarding to the 112 rejection has been fully considered but it is not persuasive. The applicants argued that the antecedent basis for “the second nozzle” in line 9 (claim 1) can be found in line 4. However, the examiner could not find any citation of “the second nozzle” in line 4. Therefore, the rejection is maintained.

Conclusion

Art Unit: 2853

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (571)272-2151.

The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN

April 4, 2005



HAI PHAM
PRIMARY EXAMINER